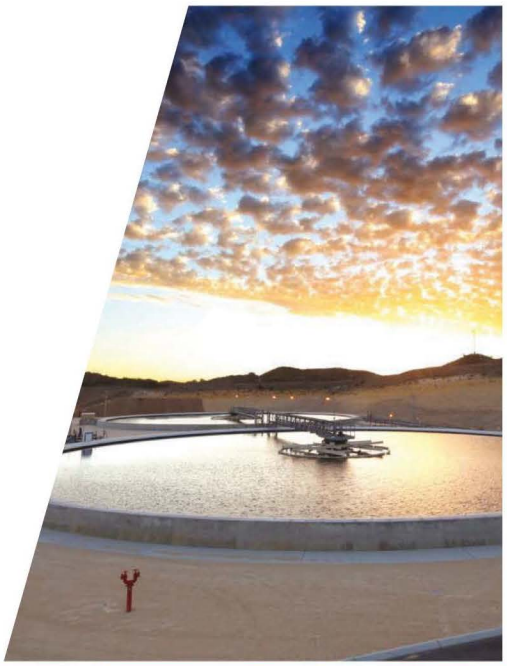
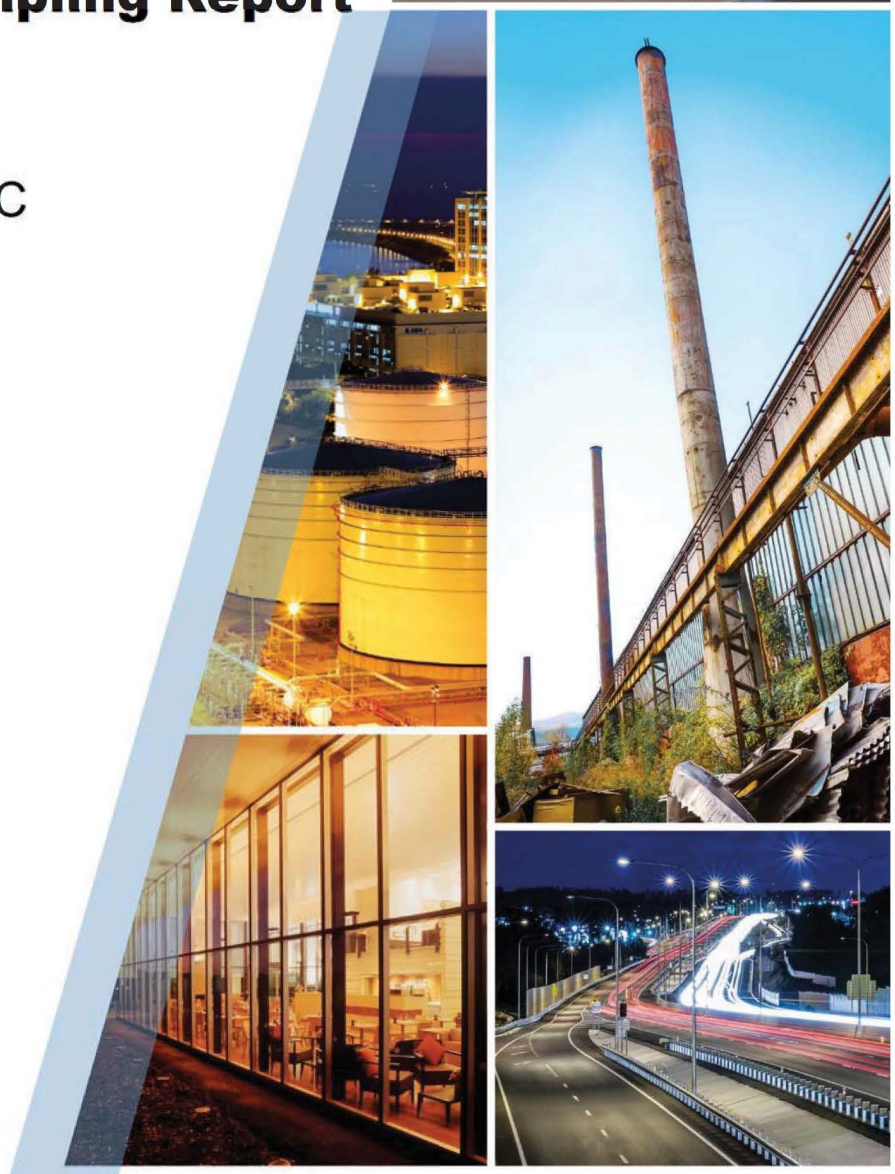


Private Well Sampling Report

Himco Site
Elkhart, Indiana

Bayer HealthCare LLC



October 1, 2018 Reference No. 039611

Mr. Rosauro del Rosario
EPA Project Manager/Coordinator
United States Environmental Protection Agency (USEPA) Region 5
77 West Jackson Boulevard
Chicago, Illinois
60604

Dear Mr. del Rosario:

Re: Private Well Sampling Report
Himco Site, Elkhart, Indiana (Site)

Please find attached the Private Well Sampling Report for the Himco Site. GHD has prepared this submittal on behalf of the Himco Site Trust for your approval. An electronic copy of the report is also provided for your use.

Should you have any questions, please contact me at (248) 893-3411.

Sincerely,

GHD

Douglas M. Gatrell, P.E.

Alan Deal

AD/ks/74

Encl.

cc: Doug Petroff, IDEM
Michelle Lordemann, USACE
Scott Krall, Bayer
Matthew Myers, Bayer

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1. Introduction

1.1 Purpose

This report presents the results from groundwater samples collected from private wells located near the former Himco Dump Site (Site) in Elkhart, Indiana. GHD has prepared this report on behalf of the Performing Settling Defendants (PSDs), collectively known as the Himco Site Trust. The results from this sample collection and analysis will be used to determine if these private wells have been impacted by arsenic dissolved in groundwater.

1.2 Background

The Site is a closed landfill located at the intersection of County Road 10 and John Weaver Parkway in Cleveland Township, Elkhart County, Indiana. The Site is approximately 60 acres in size, and accepted waste such as household refuse, construction rubble, medical waste, and calcium sulfate between 1960 and 1976. The landfill was closed in 1976.

The Site was proposed for the National Priorities List (NPL) in 1988 and was placed on the NPL in 1990. The Himco Site is being remediated pursuant to a Consent Decree (Civil Action No. 2:07cv304 (TS)) (CD). The Statement of Work (SOW), included as Appendix B of the CD, specified the Remedial Action (RA) requirements for the Site. The Remedial Design/Remedial Action (RD/RA) is being conducted pursuant to the CD, which became effective on November 27, 2007.

Figure 1.1 shows the Site location. **Figure 1.2** shows the layout of the Site, including property boundaries. The Site consists of two major areas: the landfill, and the 4-acre construction debris area (CDA). The CDA is located on the northern portion of seven residential properties and one commercial property that front onto County Road 10. In 2011, the PSDs relocated CDA waste to the landfill, and completed the construction of a soil cover over the landfill in 2012. United States Environmental Protection Agency (USEPA) approved the Construction Completion Report/Completion of Remedial Action Report (CRA, 2012) on October 31, 2012.

The SOW required groundwater investigations to the east and southeast of the Site and the implementation of a Groundwater Monitoring Program (GMP). GHD completed quarterly groundwater monitoring between 2008 and 2011. In accordance with the Interim Groundwater Monitoring Program Report (CRA, 2011), approved by USEPA on August 31, 2011, the GMP currently includes semi-annual groundwater monitoring with annual reporting each fall.

Groundwater samples from several monitoring wells routinely contain arsenic at concentrations greater than the Groundwater Remedial Action Objective (GW RAO) of 10 micrograms per liter (µg/L). **Figure 1.3** shows arsenic data collected from the Intermediate Aquifer monitoring wells in September 2017 and April 2018.

On September 8, 2015 GHD canvassed residences and businesses in the vicinity to determine the source of drinking water at the property (i.e., municipal water or private well) and to determine if there is a potential for the private wells to intercept the Intermediate Aquifer arsenic plume. The Himco Site Trust provided the results on the door to door survey to USEPA in a letter from GHD dated November 2, 2015.

GHD, on behalf of the Himco Trust, submitted the Private Well Sampling Work Plan to EPA on April 25, 2018 for an additional sampling effort. USEPA approved the work plan on May 29, 2018.

2. Field Activities

2.1 Obtaining Consent to Sample

Prior to sampling the private wells the Himco Site Trust obtained permission from the property owners to collect groundwater samples from their wells. Initially, Kazmarek Mowrey Cloud Laseter LLP, on behalf of the Himco Site Trust, contacted residents via certified mail requesting consent to collect a groundwater sample from their private wells. Permission was initially received from five owners via signed copies of the "Consent to Well Sampling Event". Beginning on July 25, 2018, GHD began a door to door survey to contact the non-responsive owners and to collect samples where consent was granted.

Figure 2.1 shows the area canvassed in the 2018 door to door survey, the limits of the Intermediate Aquifer arsenic plume, the properties supplied by municipal water, the properties with private wells and the approximate location of these private wells. Based on the results of the 2018 door to door survey, private wells were confirmed to supply water to 11 properties.

The civic address of the properties where GHD has identified and confirmed private wells in 2018 are as follows:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted][1]
- [redacted]
- [redacted]
- [redacted]

Seven properties were identified to have municipal water in lieu of private wells:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[1] The water supply at [redacted] is connected to the well on [redacted].

- [redacted]
- [redacted]

Six properties confirmed to not have a well on their property:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- 1444 Bristol - the former commercial building (Coffee & More) has been demolished and the property manager informed GHD in August 2018 that there is no well present on the property and there are currently no plans to develop the property.
- 1500 Bristol - (Former Fidler, Inc.) is also owned by the owner of 1444 Bristol. The property manager confirmed in August 2018 that there was no private well on the property.

2.2 Private Well Sampling Methods

GHD conducted field activities in accordance with the applicable protocols described in the Field Sampling Plan (FSP) (CRA, October 2008). Similar field procedures are used in private well sampling as are used in monitoring well sampling (including documentation, sample identification, date, time, etc.) however a different well purging protocol is required. Prior to collection of groundwater samples from a private well, the well must be purged to ensure that samples are representative of the formation and not influenced by the standing water in the plumbing system. Purging removes standing water from the well casing, pipes, and pressure or holding tank. Sampling of private wells utilized the existing plumbing system.

Taps selected for private well sampling were located as close to the well as possible with a preference for taps located upstream of any treatment systems and, if possible, the pressure tank.

The private well purging and sampling protocol was as follows:

1. Aerators, strainers, and hose attachments were removed prior to sampling, if possible.
2. If there is no sink or drain suitable for collecting purge water a hose was attached to the tap so that purge water could be directed to a suitable location.
3. The cold water tap was opened for a period of 15 to 30 minutes (maximum) to allow for the complete purging of the pumping system.
4. A smooth-flaring water stream was maintained at a low to moderate pressure and flow without splashing. The flow rate was not changed. The well and plumbing system was not stressed during sampling and flow was maintained at a sustainable rate.
5. GHD recorded field measurements of pH, conductivity, and temperature of the purge water every 5 minutes until the readings indicated that stabilization occurred or until 30 minutes has elapsed, whichever occurred first. The stabilization parameters are provided in **Appendix A**.
6. Stabilization was achieved when three consecutive readings for temperature and conductivity are within 10 percent of the average of the readings and pH measurements were within 1 unit of the average of the readings.

7. A pair of new disposable gloves was donned at each sampling location prior to sampling.

8. The laboratory-supplied sample bottle was filled directly from the tap.

9. One blind field duplicate sample was collected for each ten investigative samples submitted. The investigative sample bottle and the field duplicate bottle were filled by alternating between the two bottles with a one third aliquot into each until both bottles were filled.

10. Samples were handled as described in the FSP (CRA, October 2008).

GHD shipped the groundwater samples to TestAmerica Laboratories Inc. of North Canton, Ohio for arsenic analysis. Laboratory reports and data validation memoranda are provided in **Appendix B**. GHD validated the groundwater analytical data in accordance with the Quality Assurance Project Plan (QAPP) included in the RD Work Plan (CRA, November 2008).

3. Sample Results

3.1 Private Well Sample Results

GHD sampled nine private wells on July 25 through 27, 2018. On August 22, 2018 and September 12, 2018, GHD returned to the area and sampled the private wells at [redacted] and [redacted], respectively. The results of the arsenic analysis of the private well samples were as follows:

Table 3.1 2018 Private Well Sampling Results

Address	Date	Arsenic Concentration (µg/L)
[redacted]	7/25/2018	7.5
[redacted]	7/27/2018	7.8
[redacted]	7/26/2018	1.0 U
[redacted] (1)	7/27/2018	1.0 U
[redacted]	9/12/2018	0.31 J
[redacted]	7/26/2018	1.0 U
[redacted] (1)	7/27/2018	5.3
[redacted]	7/27/2018	2.0
[redacted]	8/22/2018	1.0 U
[redacted]	7/26/2018	2.0/2.6 (D)
[redacted]	7/27/2018	***19***

Notes:

19 Bold italic font indicates the arsenic concentration is greater than the GWRAO of 10 µg/L.

(D) Duplicate sample.

U Not detected at the associated detection limit.

J Estimated concentration.

(1) There was no available access to the water supply system upstream of the water softeners. Samples were collected from downstream of the water softeners.

Results were subsequently sent via certified mail to each property owner with a brief summary cover letter and their corresponding laboratory results package. See **Appendix B**.

The results from the private well samples collected in 2018 were all less than the GWRAO with the exception of the sample collected from [redacted]. This property is currently an auto sales lot consisting of a large parking lot, a sales trailer, and a connected garage and storage building, which contains a bathroom supplied by a private well. In the letter to the property owner reporting the sample result, Bayer HealthCare LLC (Bayer) advised the property owner of the following:

"Bayer understands the primary uses for the well water are currently handwashing and sewage. Those uses may continue at this time. Bayer further understands that drinking water for the property is supplied by a bottled water dispenser. Bayer advises this practice continue as the property's sole drinking water source. Bayer will report this result to the USEPA, which may require further actions be taken. In the meantime, Bayer advises that you not use any water obtained from that well for drinking, cooking or other potable purposes."

4. Conclusions and Recommendations

4.1 Conclusions

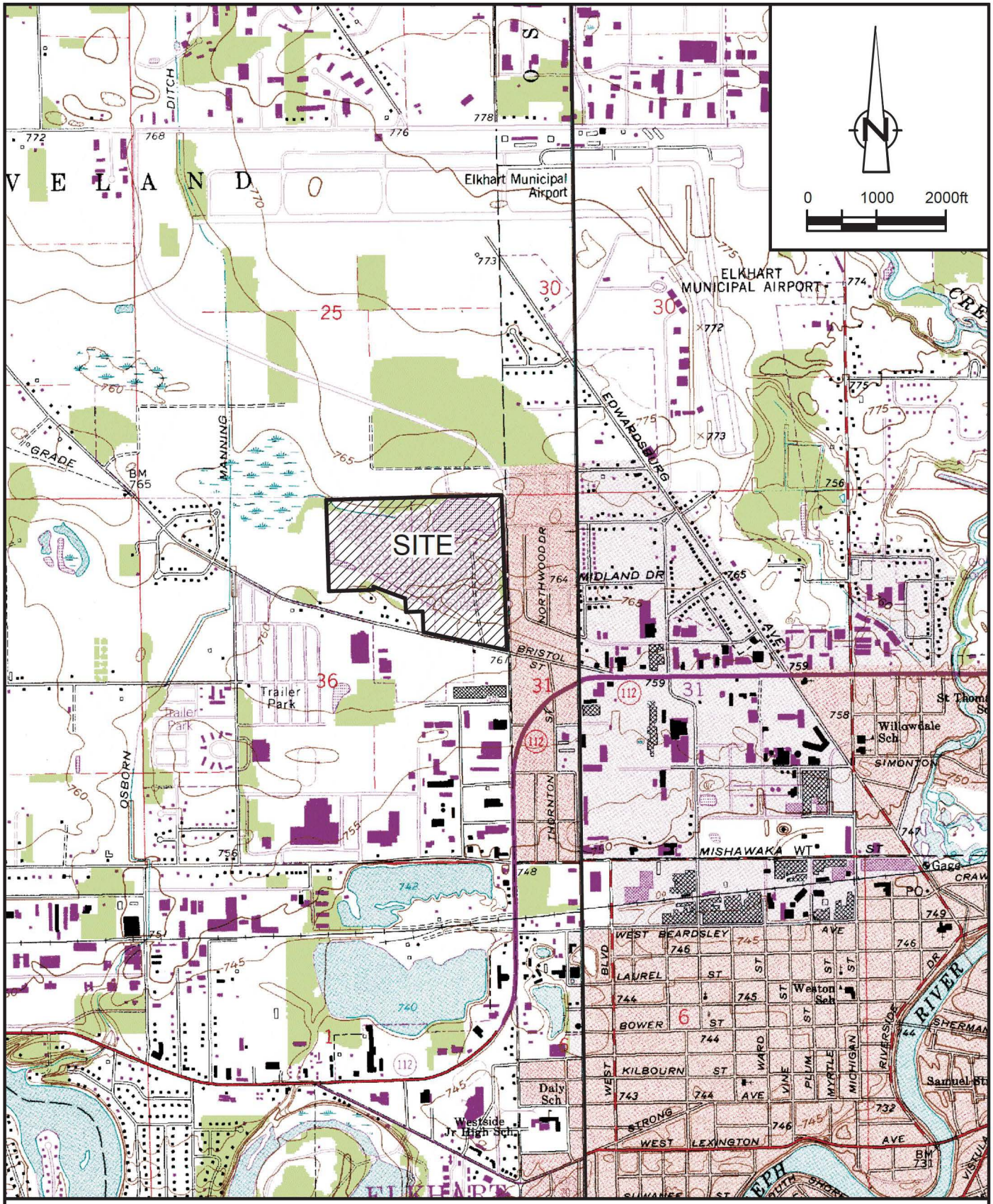
In 2018, GHD completed a door to door survey to determine if residences and businesses in the vicinity of the Intermediate Aquifer arsenic plume are supplied with municipal water or private wells.

GHD verified that 11 properties have a private water well, seven were supplied with municipal water and confirmed that six other properties had no private water well (but the municipal water supply was not confirmed).

GHD collected samples from the private wells and submitted them for arsenic analysis. The results from the private well samples collected in 2018 were all less than the GWRAO of 10 µg/L with the exception of the sample collected from [redacted].

4.2 Recommendations

Bayer will begin coordination efforts with the property owner of [redacted] and fund the connection effort of the property to the available public water supply at this property in conjunction with the required abandonment of the existing well on the property in compliance with 312 Indiana Administrative Code (IAC) 13-10-2.



SOURCE: USGS QUADRANGLE MAPS;
ELKHART AND OSCEOLA, INDIANA

figure 1.1

SITE LOCATION MAP
HIMCO SITE
Elkhart, Indiana

GHD

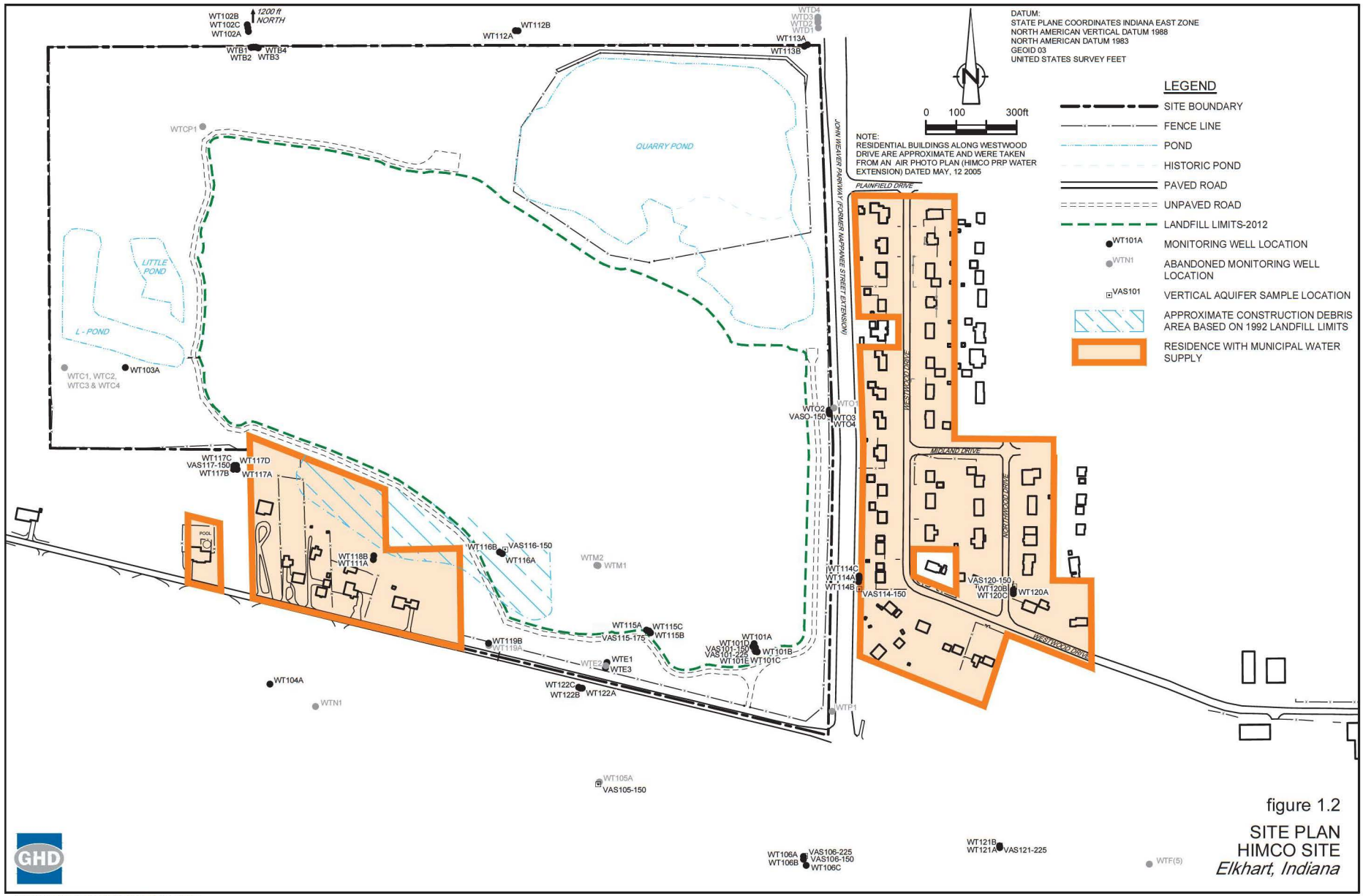


figure 1.2

SITE PLAN
HIMCO SITE
Elkhart, Indiana

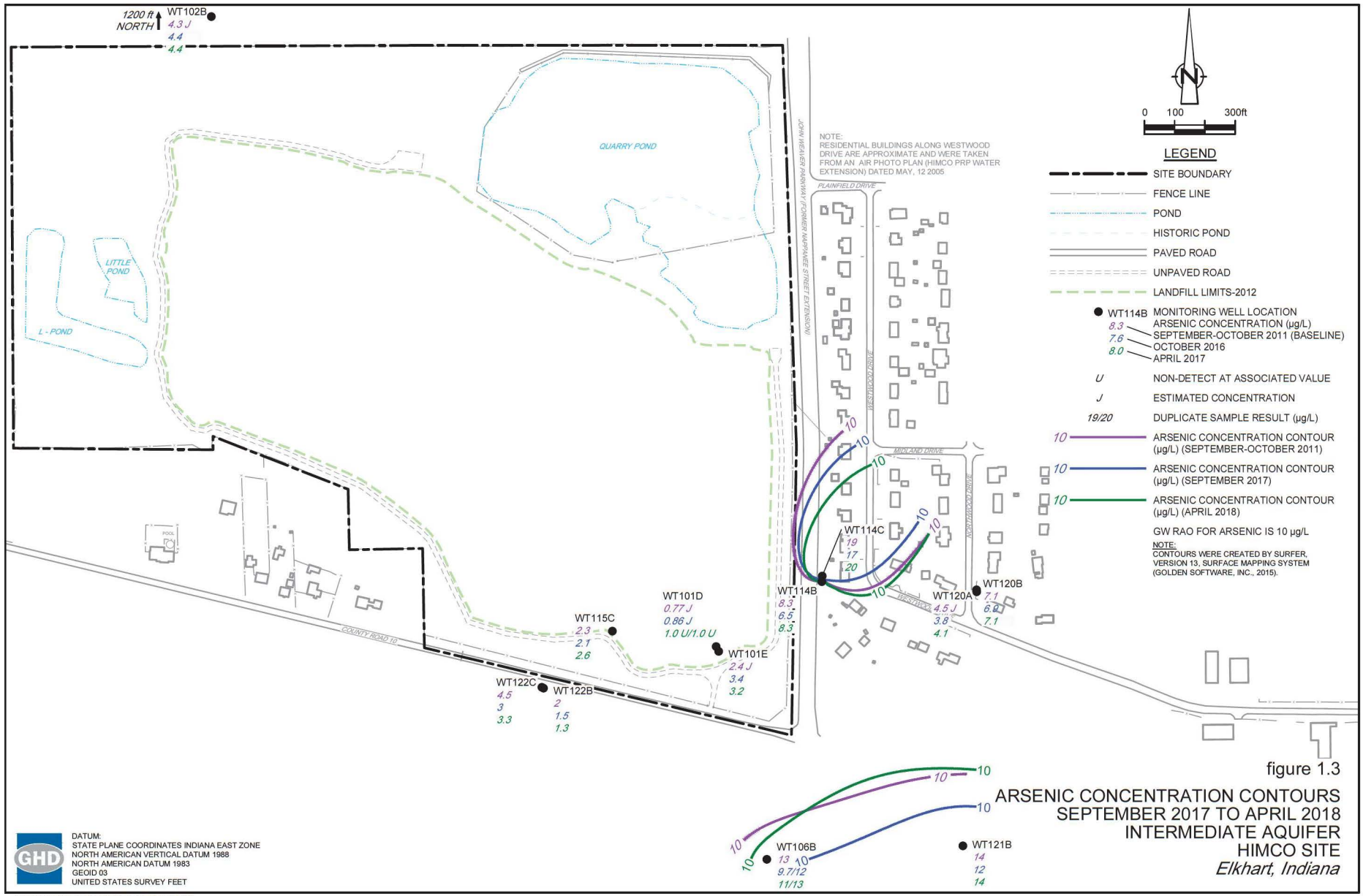
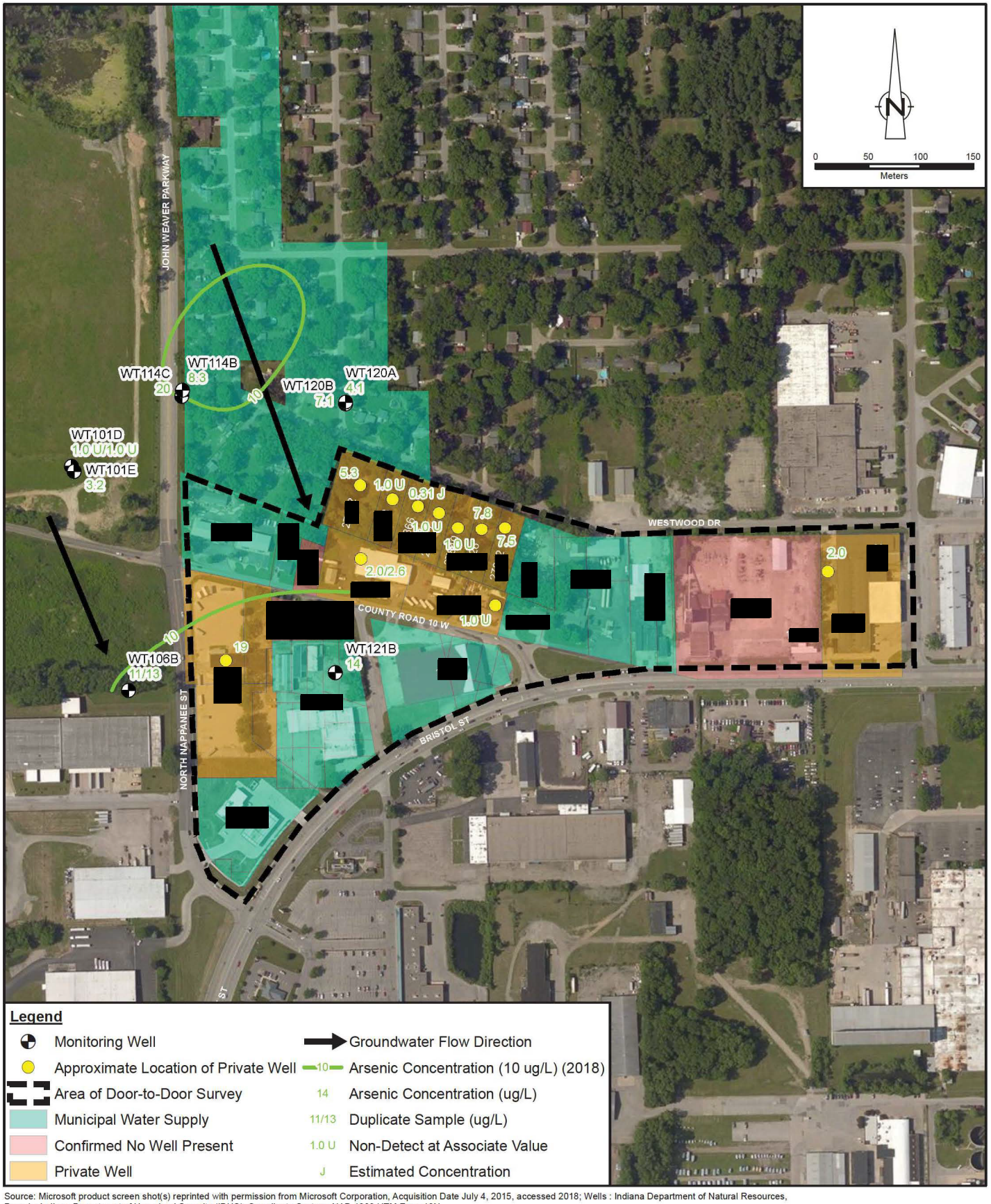


figure 1.3

ARSENIC CONCENTRATION CONTOURS
SEPTEMBER 2017 TO APRIL 2018
INTERMEDIATE AQUIFER
HIMCO SITE
Elkhart, Indiana

DATUM:
STATE PLANE COORDINATES INDIANA EAST ZONE
NORTH AMERICAN VERTICAL DATUM 1988
NORTH AMERICAN DATUM 1983
GEOID 03
UNITED STATES SURVEY FEET

39611-00(045)GN-WA001 SEP 6, 2018



Source: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation, Acquisition Date July 4, 2015, accessed 2018; Wells : Indiana Department of Natural Resources, Parcels: Indiana Department of Homeland Security (IDHS); Coordinate System: NAD 1983 UTM Zone 16N

HIMCO SITE
ELKHART, INDIANA

039611-00
Sep 27, 2018

PRIVATE WELL SAMPLING RESULTS

FIGURE 2.1

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